

## International Humanitarian Law and artificial intelligence: Between technological development and legal compliance

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### Abstract

Up to the present day, technology has given rise to the most significant legal challenges facing humanitarian principles, due to their inadequacy and failure to encompass all dimensions associated with the use of modern weapons. It is therefore crucial to highlight an urgent need to establish new international agreements based on scientific techniques, aimed at protecting civilians and the environment. Hence, the descriptive analytical method was used to determine the impact of scientific techniques on the application of the rules of international humanitarian law. Thus, it is certain that the task of those in charge—true researchers—regarding the enforcement of the law of armed conflicts will become more complex in the future when seeking a successful solution to this problem. This requires considering all combatants of any party or diversity as equal in rights and duties, away from any desire for guidance or supplementation, and viewing the enemy as an agent of a criminal ideology.

**Keywords:** International Humanitarian law, Artificial intelligence, Autonomous weapons systems, public international law

## القانون الإنساني الدولي والذكاء الاصطناعي: بين التطور التكنولوجي والإمتثال القانوني

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### المُلخَص

لقد فرض التطور التكنولوجي، حتى يومنا هذا، تحديات قانونية جسيمة أمام المبادئ الإنسانية، نظراً لقصور التشريعات القائمة وعدم شمولها جميع الأبعاد المرتبطة باستخدام الأسلحة الحديثة. لذا، من الضروري التأكيد على الحاجة الملحة لإبرام إتفاقيات دولية جديدة تستند إلى تقنيات علمية، بهدف حماية المدنيين والبيئة. ومن هنا، استخدمت الدراسة المنهج التحليلي الوصفي لتحديد أثر التقنيات العلمية على تطبيق قواعد القانون الدولي الإنساني. وبالتالي، من المؤكد أن مهمة المسؤولين - الباحثين الحقيقيين - فيما يتعلق بإنفاذ قانون النزاعات المسلحة ستزداد تعقيداً في المستقبل عند السعي لإيجاد حل ناجح لهذه المشكلة. ويتطلب ذلك إعتبار جميع المقاتلين، من أيّ طرف أو تنوع، متساوين في الحقوق والواجبات، بعيداً عن أيّ رغبة في التوجيه أو التكميل، والنظر إلى العدو كعميل لأيديولوجية إجرامية.

**الكلمات المفتاحية:** القانون الدولي الإنساني، الذكاء الاصطناعي، الأسلحة ذاتية التشغيل، القانون الدولي العام.

## Introduction

As a result of profound changes in the international legal landscape, states have shifted their focus toward economic development and the facilitation of global trade. Consequently, they are now prioritizing efforts to secure raw materials, assist developing nations, bridge the wealth gap, and establish specialized agencies to manage these evolving tasks.

Rapid advancements in weaponry since World War II have significantly altered state stances on global conflict, yet these developments have introduced severe environmental risks. Additionally, it highlighted the presence of toxic nuclear and chemical waste, as well as atmospheric pollution resulting from industrial activities. Despite these growing dangers, global governance bodies have failed to reach a consensus on effective or structured measures to mitigate their impact.

Driven by the urgent need to prevent the catastrophic devastation of a third world war, nations have intensified efforts to regulate international relations and resolve conflicts peacefully. Thus, international ties have been strengthened, which led in the twentieth century to the creation of global organizations and committees that oversee the preservation of peace and strive diligently for disarmament, the prohibition of nuclear weapons, and the finding of effective means to spread harmony<sup>(1)</sup>.

Were it not for the scientific progress whose impact has extended to the development of international relations—such as the internet, social media, WikiLeaks documents, the National Security Agency, and the fields of astronomy, optics, and weapons manufacturing—these discoveries would not have been achieved, nor would new political entities have emerged in various parts of the world. Modern forms have emerged that have played a significant role in restricting the freedom to use force, as well as impacting some human

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(1) The British newspaper The Independent, on 13/10/2016, about: “Here’s what would happen to earth in the first five years after a nuclear war.”

The British newspaper The Guardian, on 1/7/2003, published a report on the plans of the US Department of War (the Pentagon) to manufacture a new type of weapon, including bombs to be dropped from space, and vehicles capable of flying at ten times the speed of sound and carrying missiles weighing over 5,000 kg. This would allow the United States to strike enemies from US territory with extreme speed. It also reported that the new weapons technology would free Washington, within 25 years, from reliance on its regional allies and foreign bases, as part of a plan for self-sufficiency and eliminating the difficulties of obtaining international support before waging wars on others, such as what happened before the aggression against Iraq on 21/3/2003. (Al-Hayat newspaper, 2/7/2003).

rights and fundamental freedoms, sparking a revolution that has swept the globe and left significant effects on the life of human society at various levels<sup>(1)</sup>.

Therefore, war is considered legitimate if its purpose is to repel aggression or protect a clear and established right, and illegitimate if the motive is the desire for domination or the colonization of peoples. Consequently, politicians often act and think inspired by their ambitions and easily find justifications for their unjust or aggressive wars.

It is observed that the Covenant of the League of Nations prohibited all wars regardless of their type and purpose. Then the United Nations came to firmly declare the prohibition of the use of force, requiring member states to resort to peaceful means for settling disputes, and granting the Security Council the right to intervene in any dispute where war is feared.

There are deceptive means involving treachery, brutal acts, and conduct incompatible with honor and virtuous morals, such as attacks during a truce and surprise aggression. This includes extrajudicial executions carried out by the US Central Intelligence Agency (CIA) in Pakistan and Yemen, which may encourage other states to disregard human rights standards and their international guarantees to carry out targeted killings. These actions that threaten the foundations of international humanitarian law and thus can amount to war crimes<sup>(2)</sup>.

International discussions have begun to multiply regarding how to regulate and utilize these modern military technologies within the framework of international humanitarian law, as this topic poses new challenges to the international community at the global level. While these technologies may help reduce human and civilian losses, they also intensify the degree of destruction and damage in an unprecedented way.

Based on this progress, international humanitarian law attempts to adapt to this rapid tech-

(1) W. Ghonim, *Revolution 2.0: The power of the people is greater than the people in power* (A memoir), Houghton Mifflin Harcourt Publishing Company, New York, 2012.

Article: "After the Revelation of a Secret Program to Monitor Major Internet Companies: America... Less Freedom for Greater Security", in *Al Mushahid Al Siyasi* magazine (London), issue 896, 23-29 June 2013, pp. 25-29.

Article: "Informatics Causing Crises between Washington, Europe, Russia, China, and Latin America: Edward Snowden Emerging from the Ashes of the Cold War", in *Al Mushahid Al Siyasi* magazine (London), issue 899, 21-27 July 2013, pp. 24-27.

Article by Jacques Follorou, in *Le Monde* (French newspaper), 7 December 2016, entitled: "Services de renseignement américain et britannique, Combien de divisions?"

(2) Owen Bowcott, *Drone strikes threaten 50 years of international, says UN rapporteur*, the Guardian, 21/6/2012. [www.guardian.co.uk/world/212juin21/drone-strikes-international\\_law\\_un?INTCMP=SRCH](http://www.guardian.co.uk/world/212juin21/drone-strikes-international_law_un?INTCMP=SRCH).

nological development by establishing principles that determine the use of weapons and limit their impact on civilians and the environment. We will examine this in two chapters that reflect the urgent need for such adaptation, one of whose requirements lies in addressing a problem centered on determining the scope of our research through some questions directed towards it:

1. How do modern weapons affect the application of the principles of international humanitarian law?
2. Do international conventions and protocols need to be updated to keep pace with technological developments in the field of weapons?
3. How can the protection of civilians be enhanced and respect for human rights be ensured in light of the use of modern weapons?

Thus, we will attempt to examine parts to which we will dedicate the following topics:

## **Chapter One: Globalization of International Law between Legal and Political Realism**

In reality, we find that even the staunchest advocates of globalization have many fears, especially as it is a comprehensive phenomenon encompassing economic, political, strategic, social, and cultural dimensions. However, this multidimensional process tends to play with borders, and consequently erode the state's authority. If law is the state's quintessential formula, and the talk of its globalization arises, then challenges to international law certainly emerge, as the need for it extends to the universal protection of individuals, which in classical international society was left to the discretion of states<sup>(1)</sup>.

Nevertheless, the complex problems of the globalized world require effective rules and controls applied to both the powerful and vulnerable innocent civilians. This leads us to the role of international conventions in pledging to respect and consolidate human rights,

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(1) J. HABER MAS, « Après l'état, nation, Nouvelles constellations politiques », Fayard, 2000, p. 54. Marie-Claude Smouts, « Les nouvelles relations internationales, pratiques et théories », presses de sciences po, 1998, en particulier le chapitre 5 intitulé « La coopération internationale : de la coexistence à la gouvernance mondiale ».

revealing violations committed, submitting proposals and directives, and requesting the imposition of punishment, domestically or internationally, especially after the advancement of international humanitarian law and the widespread adoption of the normative standards of the Universal Declaration of Human Rights in 1948. This orientation was reflected in the jurisprudence of the European Court, which approved the prosecution of perpetrators, even heads of state, for flagrant crimes violating humanitarian principles within the framework of international criminal responsibility, justifying the need for the globalization of criminal law due to the common interest in protecting individuals and thus extending it to all humanity<sup>(1)</sup>.

Despite this, we conclude the importance of the role of international civil society, in light of the emergence of a poorly defined entity, namely the global political society, or earthly civility, as the relationship between globalization and international law represents the conflict between legal and political realism<sup>(2)</sup>.

### **First Section: Towards a Globalization with a Human Face**

We seize the opportunity to talk about digital rights and ask: Can we keep up with the digital age? Who protects the rights and freedoms associated with it when they are neglected or violated by national authorities or transnational digital technology companies? Will citizens be treated as equals and subject to the same rights and duties?

If globalization has brought many positives as a benevolent force, stemming from democratic ideas and civil society, in addition to helping millions of people improve their living standards, on the other hand, it has increased losses and caused the exacerbation of poverty and instability. Environmental problems are escalating in importance day by day and represent the greatest challenge the twenty-first century will face, as expressed by the Copenhagen Summit held at the end of 2009<sup>(3)</sup>.

(1) M. DELMAS- MARTY, « Trois défis pour un droit mondial », Seuil, 1998, p.p. 14-15.

(2) G. DEVIN et C. GAUTIER, « Mondialisation et droit international public : entre réalismes juridique et politique », in « Mondialisation et Gouvernance mondiale sous la direction de Josépha Laroche », PUF, Paris, p.p. 251-262.

(3) Joseph Stiglitz, \*Globalization and Its Discontents\*, translated by Michel Karam, Dar Al-Farabi, Beirut, 2004, p. 340.

E. HOBBSAWM, \*"L'âge des extrêmes"\*, Complexes, Bruxelles, 1999, p. 728.

Article by Daa Hosni: "State Hacking: Modern Technology in the Service of the Repressive Machine", \*Al-Liwaa\* newspaper, 12 June 2013.

Hence, the environmental challenge necessitates the development of theories with a universal and ethical dimension within the framework of shared responsibility at the global level. What is truly required is that a conscious cyber strategy be established in the Arab world, aligned with legal strategies and mutually supportive towards one goal: the justice we seek in every dispute.

We affirm that with respect to digital rights and freedoms, we must envision a reconsideration of some related theories, as the cornerstone remains in the philosophy of human rights. However, in the absence of an international law regulating modern technologies, leaving the assessment of the strength of electronic evidence to the discretionary authority of the judge, doubt remains about information security and flow, and the protection of privacy in the use of computers and networks. For this reason, we believe that the technological revolution has not yet subsided, which drives us to keep pace with it legally in unconventional ways<sup>(1)</sup>.

### **Subsection One: The Mutual Influence between International Relations and International Law**

We find that the interrelation and influence between international relations and international law is structurally mutual, especially after the world became a global village open in its space, where airplanes, vehicles, and satellites fly, and communication takes place within seconds between opposite corners of the Earth. This dynamic raises aspects of importance at the international level: namely, the extent to which developments in international law are compatible with the transformations resulting from international relations, and whether they proceed along two parallel lines.

There is no doubt that legal rules have often failed to keep pace with the transformations known to the international stage, especially since World War I. During this period, critical modern fields emerged, such as technology, manufacturing, transport, public health,

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(1) (In the context of discussing jurisprudence, we note that the European judiciary is certainly keen to encourage exchange on the Internet or cyber transactions, and to promote human rights and public freedoms. We will briefly present the most important judicial rules issued in the field of cybersecurity, which constitute major European landmarks, and nothing prevents their adoption, because the problems of cyberspace are globalized. These are: territoriality, responsibility, cooperation, self-defence, data protection, duty of care and diligence, access to information, criminalisation or punishment, and jurisdiction.)

E. Tikk, "Ten rules for cyber security", \*Survival\*, Vol. 53, no. 3, June-July 2011, pp. 119-132.

pollution, in addition to the emergence of Third World countries and international organizations. The gap has widened when new foundations were presented aiming to establish a contemporary international law, given that its rules only included civilized states and prevented other peoples from benefiting from it, as its inception was basically to ensure the spread of the world economy to protect the commercial interests of rich European countries that established this system for justifications related to their colonies<sup>(1)</sup>.

### **Subsection Two: International Transformations under Technological Development**

If the European industrial revolution in the eighteenth century changed the political map of the world, then the technological development accompanying globalization has made the Earth a geographical and temporal unit such that peoples no longer feel the distances separating them nor the differences in time.

In a simple follow-up to the effectiveness of this negative and positive development on the international military scene, we find that states possessing advanced technology are now able to wage wars with negligible human losses, as successive technological progress has resulted in the emergence of new legal concepts that have significantly altered many principles upon which international law was based for centuries<sup>(2)</sup>.

If we consider that the general foundations of global law apply to cyberspace, then modern scientific developments and achievements are either necessitating an updating process of international rules, or establishing a new legal system capable of facing developments and adapting to expected systematic progress, determining international responsibility for the use of cyberspace, and finding solutions to complex special problems raised by the phenomenon of surprise attacks on sensitive enemy sites without knowing the identity of the aggressor whose act involves grave danger resulting in damage to one or more states, even if the act itself is permissible. The basis of this liability depends on several humanitarian considerations, such as the principle of justice, the principle of equality before public burdens, and the principle of balanced in solidarity<sup>(3)</sup>.

(1) "Civilisation matérielle, économie et capitalismes", Xème-XIIIème siècle, A-mond Collise, Paris, 1990, p. 45.

(2) Research by P. Gao on: *Law and technology. The changing face of war and its legal ramifications*. Website: <http://triplehelisc-blog.com/2011/01/law-and-technology-the-changing-face-of-war-andits-legal-ramifications/>

(3) We refer here to the book written by a number of legal and military experts, now known as the Tallinn Manual. Dr. Mohamed Sami Abdel Hamid, PhD thesis in law, University of Paris, 1964, entitled: *Les perspectives d'une responsabilité internationale sans acte illicite*.

## **Second Section: The Role of Technology in the Evolution of the Meaning of Sovereignty and the Restriction of Some International Rules**

The concept of state sovereignty is undergoing a major transformation in its fundamental essence and deep meaning, not only due to being under the pressure and forces of globalization and international cooperation. States must now be viewed as instruments in the service of their peoples, not the opposite. International law is no longer merely a means of preserving peace but has become a tool for achieving development and prosperity in the international community, necessitating a reconsideration of its foundations and the introduction of necessary changes to the legal subjects it addresses and the persons it addresses<sup>(1)</sup>.

Accordingly, technological development has led to the restriction of a number of legal rules. The most important manifestations of this are imposing restrictions on state sovereignty, the principle of the freedom of the high seas, some human rights, the reduction of diplomatic missions, and the freedom to use force.

We note that thanks to this progress, the traditional spheres of territorial sovereignty have become open and accessible, and the technologically stronger has acquired a superior ability to discover what is happening to others and know their deepest secrets without their permission. The danger lies not in emptying sovereignty of its effectiveness, but in the fact that it is not considered a violation of the rules of general international law<sup>(2)</sup>.

### **Subsection One: Restrictions Imposed on Human Rights and the Freedom to Use Force**

Despite the existence of many guarantees, both at the national and international levels, to protect human rights, technological progress has become a source of risk. The manifes-

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(1) Kofi Annan was the first to use the expression “sovereignty of the individual or human being”. Thus, “responsibility to protect” became the minimum content.

K. ANNAN, “Secretary General presents his Annual Report to the General Assembly”, 20 September 1999, <http://www.un.org/News/press/docs/1999/19990920.sgsm1999.htm>.

(2) Sabah Ayoub, “WikiLeaks opens the largest public library of secret documents”, *Al Akhbar* newspaper, 8 April 2013. This electronic library is a new achievement for what it has leaked of thousands of secret documents since 2006, the most famous of which were the cables of the US State Department and its embassies around the world in the autumn of 2010. This is another important step that challenges the financial siege imposed by the United States and its allies on the WikiLeaks website, and morally breaks the security, political, and judicial persecution against the site's founder, Julian Assange, who leaked the Iraq and US State Department cables about former soldier Bradley Manning until 22 August 2013, the date of his transition to a female known as Chelsea Manning.

tations of the influence of science and technology confront us with many challenges, including wiretapping or eavesdropping, the use of modern imaging devices and computers to exert effective pressures in the field of public freedoms, resorting to opening postal and telegraphic correspondence, violating the confidentiality of communications, and brain-washing operations<sup>(1)</sup>.

It is worth noting that the desire to prohibit the use of force coincided with attempts to impose certain restrictions on the use of weapons and prohibit some weapons, in the Hague Conventions of 1899 and 1907. After the advent of the United Nations and the prohibition of any threat of using force in its Charter, the four Geneva Conventions of 1949 were signed, taking into account humanitarian aspects in wars and armed conflicts, followed by international agreements, bilateral and collective, concluded to limit nuclear, chemical, and bacteriological weapons. However, it is observed that the use of force has been subject to many restrictions, least of all among the great powers, due to the tremendous development that has caused the idea of horrific destruction<sup>(2)</sup>.

### **Subsection Two: Challenges of Controlling the Use of Weapons in International Humanitarian Law**

Autonomous weapons, especially combat robots and drones, have brought about a fundamental shift in the nature of contemporary armed conflicts. International humanitarian law still lacks clear and explicit legal frameworks to regulate their use, creating a legal vacuum that has hindered strict adherence to its fundamental principles<sup>(3)</sup>.

It can be said that if the political will to respect humanitarian considerations exists, the means will be found to prioritize the protection of the lives and dignity of millions of affected individuals. This contributes, above all, to states seriously assuming their responsi-

(1) Article by Mustafa Youssef Al-Lidawi, entitled: "Each of us carries a spy that watches him", Al-Liwaa newspaper, 4 February 2014.

(2) According to what is stated in the preamble of the UN Charter, Article 2 paragraph 4, and Article 24 thereof:

P. Daillier, A. PELLET, Droit international public, L.G.D.J. Paris, 5th Edition, 1994, p. 880.

Ali Yahi, "Nuclear explosions in the 1960s unleash their horrors on humans, animals, and the environment: The French nuclear legacy in the Algerian desert", Al-Hayat newspaper, 6 September 2014.

Article by Kazem Al-Miqdadi, "Some adopted an apologetic stance regarding it: On the tragedy of the relationship between depleted uranium and the spread of cancer in Iraq", Al-Hayat newspaper, 14 July 2013.

(3) Michael Gervais: "Cyber-attack and the laws of war", Berkely Journal of International Law, Academic Journal, vol. 30:2, UC Berkeley School of law, California, 2012, p. 565.

bilities, in good faith, to apply ethical and legal standards that reject establishing a culture of compliance with gross military violations, by many of them making huge investments in developing means and methods of combat relying on digital technology. Cyber tools, autonomous weapon systems, so-called artificial intelligence and machine learning, and outer space are increasingly used, making it difficult to distinguish between civilian and military objectives amidst the surge of contemporary international and internal armed conflicts, often leading to the use of force in a way that exceeds the desired purpose of fighting<sup>(1)</sup>.

Thus, by analyzing the fundamentals of the changing nature of contemporary armed conflicts, we briefly address the issue of increasing asymmetry that characterizes the law of war to a great extent, due to the lines of difference between warring parties, especially regarding technological and military capabilities, which have become more evident than before. In the worst-case scenario, if one party repeatedly violates the basic rules of international humanitarian law, situations threaten to deteriorate rapidly, where everything becomes permissible. This downward spiral could stand as an obstacle to the primary humanitarian goal of alleviating suffering in all times of war.

Therefore, we also discern how to combat terrorism, in addition to humanitarian and legal problems related to the protection of internally displaced persons, leniency in interpreting the principle of proportionality that allows excessive incidental loss of civilian lives or damage to civilian objects, and the adoption of a selective approach in dealing with rules that regulate depriving persons classified as terrorists of their liberty, which justifies, for example, prolonging solitary confinement, depriving contact with family, or the impossibility of challenging the legality of detention<sup>(2)</sup>.

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(1) There is no doubt that we have chosen to demonstrate the extent to which autonomous weapon systems adhere to the fundamental principles of combat as defined under international humanitarian law—namely distinction, proportionality, humanity, military necessity, and precaution. Therefore, we may present some questions, along with the legal authorities that answer them:

- Can these weapons accurately distinguish between military and civilian targets without human intervention?

- Do they cause unnecessary and inhuman suffering to legally protected persons?

- Do they calculate incidental losses and balance them against the military advantage prior to targeting?

Article 50 of the First Geneva Convention of 1949 affirmed the principle of military necessity. Subsequently, the principle of humanity was addressed in the second paragraph of Article 1 of Additional Protocol I, and was also referred to in the preamble of Additional Protocol II of 1977, given its utmost importance in combat operations, as well as in paragraph 7 of the preamble of the 1907 Hague Convention.

(2) Amina Glick, “The role of artificial intelligence in the Russian-Ukrainian war (analysis)”, on the Anadolu Agency (AA) website, 30 March 2022, accessed on 28 April 2026 at 23:00, <https://www.aa.com.tr/ar>.

## Chapter Two: The Rules Regulating War and the International Position on Aerial Combat Concepts

It is strange that states have not been able since 1914, due to the heavy use and advancement of aircraft and each state's reliance on its own power, to agree on establishing a specific law for this terrible weapon. The Hague Conference referred to aerial warfare, but its texts were not applicable. This is something the international community has always shied away from, especially regarding the issue of regulation, because it wants to remain free from any restriction. However, this does not mean leaving it to the discretion of combatants, as there are general provisions imposed by the rules of morality and the principles of humanity.

It is worth mentioning that jurists, after many efforts, reached the idea that aerial bombardment is only lawful if directed against a military target whose total or partial destruction provides a clear military advantage to one of the belligerents. Is it then permissible to drop bombs on civilians to cause them terror and confusion in order to pressure their government to stop pursuing the war, or even to destroy food supplies necessary for the same purpose?

We answer in the negative, because the Hague Draft Rules on Aerial Warfare prohibited such barbaric acts. Today, we have many international legal rules specific to the individual (the Fourth Geneva Convention of 1949) or to specific categories of people (conventions on women and children)<sup>(1)</sup>.

We observe a series of challenges facing the traditional concept of the military state, which has been weakened by technological progress. The reason for this is that the development of means and media of communication has contributed to undermining its directive function regarding the wireless control of pilotless aircraft, to the extent that the meaning of political and geographical borders, as well as sovereignty and independence from others,

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(1) The Legal Advisor of the International Committee of the Red Cross, Laurent Gisel (interview conducted on 1 July 2013 and published on the ICRC website at [www.icrc.org/en/resources/documents/interview//2013/06/27-cyber-warfare-ihl.htm](http://www.icrc.org/en/resources/documents/interview//2013/06/27-cyber-warfare-ihl.htm)), stated that Article 36 of Additional Protocol I of 1977 obliges States Parties to ensure that new weapons are compatible with the provisions of international humanitarian law. He also indicated that the development of the law to provide comprehensive protection for civilians, in line with the progress of cyber technology or to accommodate its impact on human beings, cannot be ruled out.

has become an outdated concept that cannot be relied upon.

After the economic-political and digital challenge, the security challenge confronts us. Technological growth has turned the typical concept of national security upside down, as patterns of international relations and the rules of war have changed. Consequently, borders no longer have sanctity or importance, and the danger of destruction is not limited locally to the parties to the conflict, but can extend to the territory of every warring state<sup>(1)</sup>.

It is known that a small state can now single-handedly confront another militarily superior state by producing multiple-purpose malicious information programs, such as surveying the electronic information bases of the adversary, identifying their weaknesses, infiltrating, copying, altering, or destroying them, jamming wired and wireless communications of state facility operating systems, providing information necessary to direct military operations, and tracking various aerial targets. This significantly surpasses what conventional warfare can do.

In truth, we have not yet given this technology the status it deserves, because current regional and international efforts are below the required level to deal with the growing threats of cyberspace. If we reflect carefully, we would find that when power is coupled with right, it works miracles, commands respect, and can overcome the scourge of weakness and the extent of Lebanese and Arab deficiency in using cyberspace as a formidable weapon to confront aggressive attacks and Israeli ambitions, thus creating a relative deterrent balance between the growing capabilities of the occupation and the modest capability of Lebanon<sup>(2)</sup>.

### **First Section: Highlights of Some Dimensions of Drone Warfare and Cyberspace**

Drones constitute a new type of weapon, as this technology is organically linked to the development of current and future means of warfare. They have multiple dimensions, aspects, and repercussions that are difficult to fully examine in this section. We will focus on

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(1) We refer to what Eisenhower said regarding the danger of the role of the military-industrial complex in the United States, available at the website: [www.youtube.com/watch?v=8y06NSBBRTY](https://www.youtube.com/watch?v=8y06NSBBRTY), and the book by Richard Clarke (translated into Arabic), *Cyber War: The Next Threat to National Security and What to Do About It*, Emirates Center for Strategic Studies and Research, Abu Dhabi, 2012.

(2) The website of the Telecommunications Regulatory Authority in Lebanon on “Cybersecurity in Lebanon”, available at: [www.tra.gov.lb/cybersecurity-AR](http://www.tra.gov.lb/cybersecurity-AR). We also refer to what was reported by Al-Mayadeen news channel regarding the collapse of hundreds of Israeli websites following a cyber attack (including the Airport Authority, the Postal Service, and the Ministry of Education).

the legal aspect, but we will take a quick look at their meaning, characteristics, and use in the field of assassination<sup>(1)</sup>.

Accordingly, unmanned aerial vehicles (UAVs) have, for about a decade, been on everyone's lips after becoming the preferred means for the United States, Israel, and other states to strike vital sites or kill those they label as terrorists wherever they may be<sup>(2)</sup>.

For this reason, the US Central Intelligence Agency (CIA) has endeavored to deploy this type of aircraft in Afghanistan, Pakistan, Somalia, Iraq, and Yemen to bomb key locations from the air and pursue Al-Qaeda members on their territories. It is likely that Washington will begin building new bases in the Arabian Peninsula and the Horn of Africa.

Thus, we recall in this regard that the best simple definition of cyberwarfare is that it is a set of hostile acts directed against the electronic data of a state, whether stored, processed, or exchanged from one computer to another, with the aim of revealing, copying, modifying, destroying, or obstructing its flow, such as attacking air traffic control systems, gas and oil pipelines, and nuclear reactors<sup>(3)</sup>.

Legal scholars believe that the essential difference of cyberwarfare from any land or air attack lies in intelligence and cost. Paul Rosenzweig, a law lecturer at George Washington University, indicated that this type of warfare has a global impact, and if it results in any consequences such as power outages or the destruction of a nuclear reactor, it will be considered a warlike act justifying a response on the grounds that it is a military attack<sup>(4)</sup>.

However, the lack of regulation of the use of cyberspace does not mean leaving it to the discretion of combatants. There are general provisions imposed by codified texts on aerial, land, and naval warfare that are suitable for the nature of cyberwarfare. Based on these,

(1) P. W. Singer on robot soldiers and the future of war, available at: [www.ted.com/talks/pw-singer-on-robots-of-war.html](http://www.ted.com/talks/pw-singer-on-robots-of-war.html)

(2) Mary Ellen O'Connell, Chatham House, Meeting summary, International law and the use of Drones, Summary of the international law discussion group meeting held at chatham house on Thursday, 21 october 2010, p. 2.

(3) By cyber warfare, we're talking here solely about means and methods of warfare that consist of cyber operations counting to, or conducted in the context of, an armed conflict, within the meaning of international humanitarian law (IHL).

(4) In pursuit of this, three relatively limited cyber wars have been recorded: Estonia vs. NATO – hackers (2007), Georgia vs. Russia (2008), and the United States and Israel vs. Iran (2009-2010, the Stuxnet computer virus).

Mary Ellen O'Connell on cybersecurity in international law, in: Chatham Fouse, International law: Meeting summary, cyber security and international law, 29 May 2012, pp. 3-4.

we can talk about their important rules, which must be compatible, firstly, with the right to resort to them and what is required during their use thereafter, by relying on human rights and international humanitarian law.

### **Subsection One: Characteristics of the Concept of Drones in Warfare**

Recently, drones have gained prominence and, at the same time, diversified in civilian and military use, after becoming the preferred means for the United States and Israel to carry out assassination methods, whether through wirelessly guided or autonomous decision-making aircraft, against resistance elements and cadres, or their followers based on their personal or biometric features (biometrics)<sup>(1)</sup>.

They are characterized by several features, including: preparing continuous reports on weather conditions over the theater of military operations; mitigating enemy interference with GPS data receivers; forward air control enabling them to perform three basic missions (air isolation, close air support, and combat search and rescue); tracking and designating or illuminating targets at night to assist attack aircraft using night vision scopes; detecting aerial targets at various altitudes; warning military forces in advance to deal with them; providing information necessary to guide surface-to-air missiles; regulating air navigation traffic; and monitoring and tracking elements of hostile movements or organizations<sup>(2)</sup>.

### **Subsection Two: Use of Cyberspace and the Targeting System in War**

In truth, it is difficult to define a “cyber weapon” and determine its place of manufacture or production, or its transfer from one place to another. However, the computer remains a definite means of war. It consists of a set of software programs, simple or sophisticated, of various types: surveying the electronic information bases of the adversary, identifying their weaknesses, infiltrating, copying, altering, or destroying them, and tracking various

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(1) The drone is a computer-operated aircraft (automatically operated by computer). Some refer to this type of aircraft as “smart”. Peter Gao compared autonomous aircraft to anti-personnel mines, where a person most often triggers the mine when stepping on it automatically. Similarly, the aircraft’s computer identifying the target leads to the automatic launch of an airstrike program. \*Law and technology: The changing face of war and its legal ramifications\*, 29 January 2011.

(2) The first Israeli drones used in Lebanon were of the MK type, which the people of the South renamed “Umm Kamil” (Mother of Kamil). Later, Israel admitted to having carried out 1,502 sorties by drones, with a total flight time of 16,418 hours.

\*Israeli Maariv newspaper\*, 18 September 2006.

Article by Ali Dreej, “Israel develops new generations with high espionage and combat capabilities”, \*Lebanese As-Safir newspaper\*, 28 August 2007.

targets. But is it considered, as such, a person of international law? What about automatically transmitting malicious software? Has it come to be considered as ammunition? Is there a global system today that claims to monopolize this orientation from a hidden arena of soft war, monitoring all humanity to see whether their political societies—differing in structure, beliefs, and practices—are moving away from or approaching this concept?<sup>(1)</sup>

When we reflect deeply on the outcomes of this importance, we conclude the following correct statement, which we summarize in words as it needs no explanation: He who possesses cyberspace will undoubtedly control the atmosphere and course of the battle. Israel has become a leader in this field and its uses, selling its software programs to a number of states. We must always remember that the amazing progress in the field of destructive weapons has produced a new international situation known as peace through deterrence<sup>(2)</sup>.

Thus, the four Geneva Conventions, which have a lofty humanitarian character and constitute what may be called the core of contemporary international humanitarian law, are in place. We hope that technological progress will lead to the development of cyber weapons that alleviate the suffering of persons affected by war and collateral damage, while achieving the advantage or effect of conventional weapons. We conclude from all the above that intentional targeting of civilians is a war crime. As for the claim of some states that what they are doing is to combat terrorism, it does not justify the paralysis of many civilian aviation facilities and causing harm or death to innocent civilians.

In the face of all these challenges, we cannot keep in international law texts specific to international public utilities, some incomplete and others unapplied, dating back to an era not our own—the cyber era. The damages of its use may occur without it being possible to attribute any error to the state, and it is difficult for malicious software to have an external appearance indicating its characteristics and nationality, complicating the evidentiary process. Conferences and international organizations in the modern era have tried to establish a law to regulate activity in cyberspace and its operations, without their efforts being crowned with success. This means that the principles regarding its use as a means of war have not yet risen to the rank of binding legal rules, and their transition to this level only

(1) It is known that automatically transmitting software programs are hacking operations based on the use of self-executing code. Needless to mention what was indicated by one of the headlines of \*Science & Vie\* magazine (issue 1159, April 2014): \*”Cyberguerre: et si elle avait déjà commencé”\*, and the investigation by Vincent Nouyrigat in the same magazine on cyber warfare challenging the military, pp. 72-81.

(2) Chapters six and seven of the book by D. Colard on international relations, translated into Arabic by Khidr Khidr, second edition, Dar Al-Tali’a, Beirut, 1985.

occurs when they become a repeated and stable custom, or when they are codified in an international agreement<sup>(1)</sup>.

## **Second Section: The Legal Dimension of Digital Technology on the Application of the Principle of Proportionality**

There is no doubt that breaches of the rules of international humanitarian law, including the principle of proportionality, have always been a potential possibility during armed conflicts. Their importance may increasingly escalate as a result of the tremendous technological progress in methods and tools of combat. Doubts arise about the ability of artificial intelligence weapons to decide to cancel an attack if it becomes clear that the expected military advantage is not proportionate to the excessive incidental effects on civilians and cultural property. The anticipated inability of such weapons to make such value judgments renders their use criminal, especially since this comparison process remains fundamentally dependent on the personal estimates of commanders, constituting a violation of the principles of distinction and proportionality, which are peremptory international principles, and challenges that still confront the human conscience<sup>(2)</sup>.

Some autonomous weapon systems may be inherently random in effect, and thus prohibited under existing international humanitarian law, as they cannot be sufficiently understood, monitored, and interpreted under normal conditions of use, not to mention the additional dimensions posed by machine learning software in terms of unpredictability at the design level, regardless of their operating environment. However, as long as the desire of responsible leaders for control, power, and dominance continues, and due to the diversity and accelerating progress of technology in general and military technology in particular, the balance between developed countries and less advanced ones remains truncated, not open to research or comparison<sup>(3)</sup>.

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(1) Israel's exports in the field of the internet are estimated at about 60 billion dollars (three times larger than Britain), and it controls 5% of the global cyber market. 25 February 2014, available at: [www.cremnews.com/m/?id=28124](http://www.cremnews.com/m/?id=28124).

(2) Markus Wagner: "Autonomy in the Battlespace: Independently operating weapon systems and the law of armed conflict", International humanitarian law and the changing technology of war, Martinus Nijhoff published in: <https://www.researchgate.net>.

(3) International Committee, \*International Humanitarian Law and Challenges of Contemporary Armed Conflicts\*, 33rd International Conference of the Red Cross and Red Crescent, Geneva, October 2019, pages 22-24, \*Study on Customary International Humanitarian Law\*, Rule 71, 2005.

## Subsection One: Precision in the Use of Weapons from the Perspective of International Humanitarian Law

Due to the complexity of this subject, it is difficult to fully and specifically control it. Therefore, legislators in the law of armed conflict have addressed this use by adopting three levels:

1. General Principle: Belligerent powers cannot plead the absence of an explicit text prohibiting a specific weapon to consider that they have the right to use it in a way that exceeds general humanitarian principles.

2. Negative Prohibition: In reality, the law of armed conflict considers any weapon prohibited by its nature if its use results in one of the following effects:

- a. It is indiscriminate in effect.
- b. It causes severe damage and unjustifiable suffering.
- c. It causes widespread, long-term, and severe damage to the natural environment<sup>(1)</sup>.

3. Positive Prohibition: Starting from broad lines of classification, the law of armed conflict divides weapons and ammunition into three main types:

a. Weapons prohibited from use because they are explicitly and clearly named in international treaties and conventions.

b. Weapons whose use is restricted, i.e., permitted but under specific and clearly defined conditions through texts and provisions of relevant conventions on the law of armed conflict.

c. Weapons permitted for use, i.e., those not explicitly prohibited in any declaration or treaty, and thus remain subject to the rules of international humanitarian law<sup>(2)</sup>.

(1) The Martens clause, as stated in the 1899 and 1907 Hague Conventions, was reaffirmed in Article 1(2) of the 1977 Additional Protocol I to the Geneva Conventions of 1949. It is also reflected in Article 51(4)(b) and Article 35(2) and (3) of the same Protocol.

(2) The 1868 St. Petersburg Declaration banning the use of explosive projectiles weighing less than 400 grams against persons; the 1899 Hague Declaration banning the use of expanding (dum-dum) bullets in the human body; the 1925 Geneva Protocol banning the use of poisonous gases; the 1972 Convention banning the use of biological and bacteriological weapons; the 1993 Convention banning the use of chemical weapons; the 1997 Ottawa Convention banning the use of anti-personnel mines; Protocol I to the 1980 Convention (CCW) banning the use of any weapon the primary effect of which is to injure by fragments that are not

## **Subsection Two: Where is Lebanon from the Israeli Nuclear Strategy in the Middle East and the Widening Gap?**

The Israeli ground operation in Lebanon reveals a mixture of political ambition and realistic constraints, and a failed attempt to transform a limited incursion into a strategic achievement that changes the face of the region. Israel wanted to impose a new reality by force, but found itself trapped between the calculations of the ground and international pressure, turning its campaign from a systematic invasion into a tactical quagmire, bringing back to the fore the tragedy of the 2006 war with all its painful lessons. Its reality has centered, so far, on relying on the United States to support its Zionist project in order to maintain its growing interests and ensure its existence in the Arab and Middle Eastern region<sup>(1)</sup>.

Nevertheless, we can consider the nuclear weapon as one of the fundamental pillars on which its policy relies to achieve its expansionist goals and aspire to a Greater Israel as a dominant regional superpower. It has become one of its most important available means, especially after it adopted the certainty of nuclear deterrence, to pressure the United States to secure its political, security, military, and even economic interests. It has not signed the Treaty on the Non-Proliferation of Nuclear Weapons, and at the same time works with its friends to disarm all states in the region of weapons of mass destruction. This constitutes a significant obstacle to international efforts, a highly dangerous factor in undermining global stability, and a direct threat to Arab national security, without being held accountable by the central system powers for the legality of its nuclear weapons, unlike what happens with Iran and North Korea, not to mention the restrictions and blockade imposed on India and Pakistan in previous periods for fear of the leakage of expertise and nuclear materials to other states or terrorist organizations<sup>(2)</sup>.

The Israeli nuclear program involves regional-international risks, manifested in burying

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detectable by X-rays; Protocol IV to the same convention banning the use of blinding laser weapons; and Protocols II and III thereto relating to restrictions on the use of prohibited weapons, mines, booby-traps and other devices.

(1) In 1914, following the negotiations that took place with the Turkish government over seven concessions for oil extraction in Palestine, Israel began to play a clear role in the international conflict.

\*Zionism: Theory and Practice\*, a group of Soviet scientists, translated by Yousef Salman, Dar Al-Tali'a, Beirut, p. 65.

(2) Feroz Hassan Khan Nuclear security in Pakistan: Separating Myth from reality, arms control today journal, 2009, <https://www.armscontrol.org/act/2009,07/features/nuclear-security-pakistan-separating-myth-reality>.

waste from nuclear projects—considered sources of environmental threat to living organisms—in three main areas: the West Bank, the Negev, and the Syrian Golan Heights<sup>(1)</sup>.

In addition, according to reports from international experts at the Arms Control Association, it produces more tritium, a relatively fast-decaying radioactive byproduct used to boost the explosive power of some nuclear warheads, and new plutonium that replaces or extends the life of existing warheads in the Israeli nuclear arsenal<sup>(2)</sup>.

Despite that, it still refuses to raise the issue of a Middle East free of such weapons, and does not allow the International Agency to inspect any of its facilities. All various field documents indicate that it possesses all internationally prohibited items, including weapons of mass destruction: nuclear, chemical, and biological, especially since it has not signed the 1972 Convention. Moreover, it is among the last points of traditional colonial and settlement occupation in the world, the most inclined to secret diplomacy and espionage even on most of its reliable allies, and has the highest rate of condemnation in United Nations bodies, which have not subjected it to any kind of sanctions. Rather, it generates anxiety and despair among the Arab individual due to the psychological impact of nuclear punishment, as its position has shifted from that of an accused perpetrator to a role of ruling by decree<sup>(3)</sup>.

If we assume that every state adopted the same Israeli strategy, then the model of the veto power system formulated by Morton Kaplan would be realized, and his theory in the literature of international relations would be reinforced. However, the Arab-Israeli conflict cannot end as long as there is an occupying entity possessing nuclear weapons. Nevertheless, Lebanon is stimulating its will with its capabilities that adapt to confronting files that can be legally relied upon, whether related to human, material, or economic losses, as well as violations linked to international humanitarian law. The problem lies in steady steps by

(1) UN Report: Israel using Syrian Golan for radioactive nuclear waste dumps, site of international middle east media center (IMEMC), 26/2/2019, <https://imenc.org/article/un-report-israel-using-syrian-golan-for-radioactive-nuclear-wast3e-dump>.

An Egyptian researcher opens the file on nuclear waste dumping: Somalia and West Africa have become cemeteries for European waste. \*Al Bayan\* newspaper, Dubai, 8 July 2001.

(2) Images of a secretive Israeli nuclear facility undergoing major construction, site of defense news, 26.2.2021, <https://www.defensenews.com/global/mideaste-faciltiy-undergoing-major-construction>.

(3) Israel has benefited from Western silence on successive international reports from 1954 to the present regarding its activity in the military nuclear field, despite the fact that they reveal operations carried out by Israeli agencies and leaders—including smuggling, espionage, transport of radioactive materials, and conducting nuclear tests, particularly in South Africa during the apartheid era—without being subjected to any punitive measures.

Julian Borger, “The truth about Israel’s secret nuclear arsenal”, \*The Guardian\*, 15 January 2014.

the provisions of the global order aimed at enforcing any potential decisions or compensation, where the priority of legal accountability recedes as the parties move from military confrontation to the negotiation table before international justice, such as a ceasefire, the return of the population, and reconstruction. This is indeed what Lebanon has been demanding so far, but to no avail due to the imbalance of power, which is the most influential factor in this path<sup>(1)</sup>.

## **Conclusion and Recommendations:**

### **First: Conclusions**

Technological progress has brought about a conceptual and value change to the rules of international humanitarian law. Our world is witnessing new scientific developments whose scope and legal effects are difficult to predict, especially as they reflect and affect the relations of the international community in all its components, casting their shadow on humanitarian considerations, narrowing or expanding them by adapting to their updates in acceptance or rejection. The important thing is that there are legal, social, and ethical challenges at both the international and domestic levels that have worked to marginalize the principle of necessity and humanity.

Based on the rapid developments in the military and cyber field up to the year 2026, the study has reached a set of important results and recommendations concerning the impact of modern technological developments on the application of international humanitarian law. We list them sequentially:

1. Technology, in relation to remote targeted killing, has provided exceptional capabilities to mislead investigations, complicating the activation of international criminal responsibility.
2. Artificial intelligence systems face difficulty in applying the principles of distinction between civilians and combatants, as well as proportionality in attack and precaution, exposing victims to unprecedented risks.

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(1) Vector A. Utgoff (ed.), *\*The coming crisis: Nuclear proliferation, US Interests and world order\** (Cambridge, Ma: MIT press, 2000), pp. 66-68.

Richard Falk and Stanley Hoffmann argue that peace can be achieved based on the principle of equality among states: either everyone possesses nuclear weapons, or everyone gives them up. These are two proposals that Israel rejects.

3. Technology, such as targeting systems, has enabled converting data into targets, multiplying the capacity of daily attacks hundreds of times, raising questions about the accuracy and speed of legal verification of targeting.
4. The inadequacy of international treaties, especially the Geneva Conventions of 1949, to accommodate the development of autonomous weapons and cyber operations, particularly Article 36 of Additional Protocol I of 1977, which requires urgent review of new weapons.
5. Technology has currently become a central part of national security and sovereignty, making its control and international regulation extremely important.

### **Second: Recommendations**

1. Call upon the international community to formulate additional protocols or new agreements that define the use of artificial intelligence, and establish a clear and detailed definition of prohibited autonomous weapons so that the decision to kill is not left to random machines.
2. Protect infrastructure by placing a digital marker for medical and humanitarian facilities to protect them from cyber-attacks.
3. Work on establishing international mechanisms to monitor the use of military technology and document its retaliatory attacks, and then train military crews.
4. The fleet of drones in Lebanon must be considered part of a defensive strategy and a roadmap that yields fruit if certain climates are available, such as preparing a Lebanese seminar with the participation of senior Lebanese and Arab experts and specialists, identifying in numbers, facts, and convincing scientific comparisons the extent of deficiency in using this weapon to confront aggressive attacks and Israeli ambitions in Lebanon.
5. Preserving life, freedom, sovereignty, independence, and the future necessitates that we strive diligently at the present stage to transform Lebanese society into a nurturing research environment. Ignorance, whether civilian or military, can only be overcome by a sincere scientific revolution.

## References:

### - Arabic Books:

- A group of Soviet scientists, translated by Yousef Salman, Dar Al-Tali'a, Beirut.
- Joseph Stiglitz, "Globalization and its Discontents", translated by Michel Karam, Dar Al-Farabi, Beirut, 2004.
- Daniel Colard, on International Relations, translated into Arabic by Khidr Khidr, second edition, Dar Al-Tali'a, Beirut, 1985.
- Richard Clarke (translated into Arabic), Cyber War: The Next Threat to National Security and What to Do About It, Emirates Center for Strategic Studies and Research, Abu Dhabi, 2012.
- Mohamed Sami Abdel Hamid, PhD thesis in law, University of Paris, 1964.

### - Foreign Books:

- «Civilisation matérielle, économie et capitalismes», Xème-XIIIème siècle, A-mond Collise, Paris, 1990.
- G. DEVIN et C. GAUTIER, « Mondialisation et droit international public : entre réalismes juridique et politique », in « Mondialisation et Gouvernance mondiale sous la direction de Josépha Laroche », PUF, Paris.
- J. HABER MAS, « Après l'état, nation, Nouvelles constellations politiques », Fayard, 2000.
- Marie-Claude Smouts, « Les nouvelles relations internationales, pratiques et théories », presses de sciences po, 1998, in particular chapter 5 entitled « La coopération internationale : de la coexistence a la gouvernance mondiale ».
- M. DELMAS- MARTY, « Trois défis pour un droit mondial », Seuil, 1998.
- Mary Ellen O'Connell, Chatham House, Meeting summary, International law and the use of Drones, Summary of the international law discussion group meeting held at chatham House on Thursday, 21 October 2010.
- Michael Gervais: "Cyber-attack and the laws of war", Berkeley Journal of International Law, Academic Journal, vol. 30:2, UC Berkeley School of law, California, 2012.
- Vector A. Utgoff (ed.), The coming crisis: Nuclear proliferation, US Interests and world order (Cambridge, Ma: MIT press, 2000).
- W. Ghonim, Revolution 2.0: The power of the people is greater than the people in power (A memoir), Houghton Mifflin Harcourt Publishing Company, New York, 2012.
- E. JHOBSBAWM, «L'âge des extremes», Complexes, Bruxelles, 1999.

- P. Daillier, A. PELLET, Droit international public, L.G.D.J. Paris, 5th Edition, 1994.
- Articles and Periodicals:
  - Article entitled “After revealing a secret program to monitor major internet companies: America... less freedom for greater security”, in Al Mushahid Al Siyasi magazine (London), issue 896, 23-29/6/2013.
  - Article entitled “Informatics causing crises between Washington, Europe, Russia, China, and Latin America: Edward Snowden emerging from the ashes of the Cold War”, in the same magazine, issue 899, 21-27/7/2013.
  - Article by Jacques Follorou, in Le Monde newspaper (France), 7/12/2016, on: «Services de renseignement américain et britannique, Combien de divisions?»
  - Israeli Maariv newspaper, 18/9/2006, article by Ali Dreej, “Israel develops new generations with high espionage and combat capabilities”, Lebanese As-Safir newspaper, 28/8/2007.
  - Article by Daa Hosni on “State hacking: modern technology in the service of the repressive machine”, Al-Liwaa newspaper, 12/6/2013.
  - The Independent newspaper (UK), 13/10/2016, on: “Here’s what would happen to earth in the first five years after a nuclear war.”
  - The Guardian newspaper (UK), 1/7/2003, report on plans by the US Department of War (the Pentagon) to manufacture a new type of weapon.
  - Article by Mustafa Youssef Al-Lidawi, entitled: “Each of us carries a spy watching him”, Al-Liwaa newspaper, 4/2/2014.
  - Ali Yahi on “Nuclear explosions in the 1960s unleash their horrors on humans, animals, and the environment: The French nuclear legacy in the Algerian desert”, Al-Hayat newspaper, 6/9/2014.
  - Article by Kazem Al-Miqdadi on “Some adopted an apologetic stance regarding it: On the tragedy of the relationship between depleted uranium and the spread of cancer in Iraq”, Al-Hayat newspaper, 14/7/2013.
- **Websites:**
  - Feroz Hassan Khan, Nuclear security in Pakistan: Separating Myth from reality, arms control today journal, 2009, <<https://www.armscontrol.org/act/2009,07/features/nuclear-security-pakistan-separating-myth-reality>>.
  - Images of a secretive Israeli nuclear facility undergoing major construction, site of defense news, 26.2.2021, <<https://www.defensenews.com/global/mideaste-facility-undergoing-major-construction>>.
  - Markus Wagner: “Autonomy in the Battlespace: Independently operating weapon systems and the law of armed conflict”, International humanitarian law and the changing

technology of war, Martinus Nijhoff published in: <<https://www.researchgate.net>>.

- Owen Bowcott, Drone strikes threaten 50 years of international law, says UN rapporteur, the Guardian, 21/6/2012. [[www.guardian.co.uk/world/212juin21/drone-strikes-international\\_law\\_un?INTCMP=SRCH](http://www.guardian.co.uk/world/212juin21/drone-strikes-international_law_un?INTCMP=SRCH)]([http://www.guardian.co.uk/world/212juin21/drone-strikes-international\\_law\\_un?INTCMP=SRCH](http://www.guardian.co.uk/world/212juin21/drone-strikes-international_law_un?INTCMP=SRCH)).

- UN Report: Israel using Syrian Golan for radioactive nuclear waste dumps, site of international middle east media center (IMEMC), 26/2/2019, <<https://imenc.org/article/un-report-israel-using-syrian-golan-for-radiocactive-nuclear-wast3e-dump>>.

- Laurent Gisel (interview conducted on 1/7/2013 and published on the ICRC website), [[www.icrc.org/en/resources/documents/interview//2013/06/27-cyber-warfare-ihl.htm](http://www.icrc.org/en/resources/documents/interview//2013/06/27-cyber-warfare-ihl.htm)] (<http://www.icrc.org/en/resources/documents/interview//2013/06/27-cyber-warfare-ihl.htm>).

- Amina Glick, The role of artificial intelligence in the Russian-Ukrainian war (analysis), on the Anadolu Agency (AA) website, 30/3/2022, accessed on 28/4/2026 at 23:00, <<https://www.aa.comtr/ar>>.

- Research by P. Gao on: Law and technology. The changing face of war and its legal ramifications, available at: <<http://triplehelisc-blog.com/2011/01/law-and-technology-the-changing-face-of-war-andits-legal-ramifications/>>.

- [[www.cremnews.com/m/?id=28124](http://www.cremnews.com/m/?id=28124)](<http://www.cremnews.com/m/?id=28124>).

- P. W. Singer on robot soldiers and the future of war, available at: [[www.ted.com/talks/pw-singer-on-robots-of-war.html](http://www.ted.com/talks/pw-singer-on-robots-of-war.html)](<http://www.ted.com/talks/pw-singer-on-robots-of-war.html>).

- ANNAN, “Secretary General presents his Annual Report to the General Assembly” 20 September 1999, <<http://www.un.org/News/oss/sg/stories/stat-ments-search-full.asp?statID=28>>.

- Website of the Telecommunications Regulatory Authority in Lebanon on “Cybersecurity in Lebanon”, available at: [[www.tra.gov.lb/cybersecurity-AR](http://www.tra.gov.lb/cybersecurity-AR)](<http://www.tra.gov.lb/cybersecurity-AR>).

- The danger of the role of the military industrial complex in the United States, available at: [[www.youtube.com/watch?v=8y06NSBBRTY](http://www.youtube.com/watch?v=8y06NSBBRTY)](<http://www.youtube.com/watch?v=8y06NSBBRTY>).